Anti-hCD19-βGal

Bispecific antibody against human CD19 and β-galactosidase; Negative control
Catalog code: bimab-cd19bg-01
https://www.invivogen.com/anti-hcd19-bgal

For research use only, not for diagnostic or therapeutic use
Version 24C18-AK

PRODUCT INFORMATION
Contents: 10 µg Anti-hCD19-βGal, purified antibody, provided azide-free and lyophilized
Target: Human CD19 (hCD19) and *E. coli* β-galactosidase (β-Gal)
Specificity: Cells expressing hCD19 and *E. coli* β-galactosidase (β-Gal)
Clonality: Monoclonal antibody
Source: CHO cells
Formulation: 0.2 µm filtered solution in a sodium phosphate buffer with glycine, saccharose and stabilizing agents.
Purity: Purified by affinity chromatography

Antibody resuspension
Add 100 µl of sterile water to obtain a concentration of 0.1 mg/ml. Invert vial several times to ensure the product is fully dissolved.

Storage and stability
- Product is shipped at room temperature. Store lyophilized antibody at -20 °C. Lyophilized product is stable for at least 1 year.
- Reconstituted antibody is stable for 1 month when stored at 4 °C and for 1 year when aliquoted and stored at -20 °C. Avoid repeated freeze-thaw cycles.

Quality control
- Binding to hCD19 has been confirmed by flow cytometry.
- The inability of Anti-hCD19-βGal to induce T cell activation has been confirmed using cellular assays.
- The complete sequence of this antibody has been verified.
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

RESTRICTIONS USE
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DESCRIPTION
Anti-hCD19-βGal is a bispecific antibody that binds to two sites: hCD19 expressed on the surface of B cells, and *E. coli* β-galactosidase (β-Gal). It is used as a negative control for Anti-hCD19-CD3 bispecific antibody that, alike Blinatumomab, engages unstimulated T cells to proliferate and exert cytotoxic activity on CD19-positive lymphoma cells[1,2] (Figure 1).

1. Krishnamurthy A. & Jimeno A., 2017. Bispecific antibodies for cancer therapy: A review. Pharmacol Ther. S0163-7258(17)30293-0. **2. Bargou R. *et al.*, 2008.** Tumor Regression in Cancer Patients by Very Low Doses of a T Cell–Engaging Antibody. Science. 321(5891):974-7.
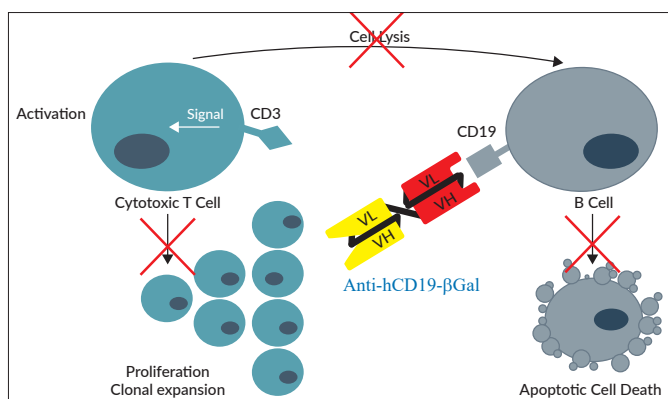

Figure 1: Anti-hCD19-βGal binds to hCD19 on B cells but not to hCD3 on T cells.

APPLICATION
Anti-hCD19-βGal can be used as a negative control of Anti-hCD19-CD3 bispecific antibody in studies assessing B cell contact-dependent killing and T cell activation/proliferation.

PROCEDURE
InvivoGen has developed a cellular assay to determine the ability of Anti-hCD19-CD3 to activate T cells in the presence of CD19-positive B cells. This assay utilizes the human B-cell lymphoma cell line Raji and InvivoGen's Jurkat-Lucia™ NFAT cells, an immortalized T lymphocyte cell line that stably expresses an NFAT-inducible Lucia luciferase reporter gene (Figure 2, next page).

For more information visit http://www.invivogen.com/jurkat-lucia-nfat-cells.

Determination of T cell activation using Jurkat-Lucia™ NFAT cells
1. Dispense 20 µl of Anti-hCD19-CD3 (0.1-100 ng/ml final concentration) diluted in IMDM (Isocove's Modified Dulbecco's Medium) containing 10% heat-inactivated fetal bovine serum per well of a 96-well plate. *Note: We recommend using Anti-βGal-hCD3 and Anti-hCD19-βGal as negative controls.*
2. Into each well, distribute 90 µl of Raji cell suspension (100,000 cells/well).
3. Incubate 30 minutes at 37°C.
4. Into each well, distribute 90 µl of Jurkat-Lucia™ NFAT cell suspension (300,000 cells/well).
5. Incubate for 6, 8 and 24 hours at 37°C.
6. Levels of Lucia luciferase can be determined by measuring the luminescence at each time point using coelenterazine-based reagents such as QUANTI-Luc™ and QUANTI-Luc™ Gold.
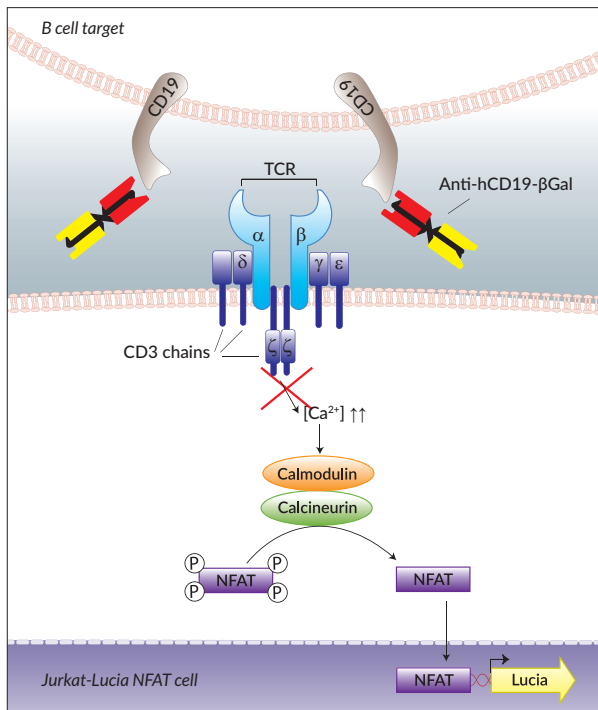
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Figure 2: Anti-hCD19-βgal does not allow Jurkat-Lucia™ NFAT cell activation upon incubation with Raji B cells.

Note: Jurkat T cells are CD4$^+$CD8$^-$. To assess B-cell lysis, we recommend to use primary CD8$^+$ T cells.

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RELATED PRODUCTS

Product	Catalog Code
Anti-hCD19-CD3	bimab-hcd19cd3
Anti-βGal-hCD3 (negative control)	bimab-bgalhcd3
Jurkat-Lucia™ NFAT Cells	jktl-nfat
QUANTI-Luc™	rep-qlc1
QUANTI-Luc™ Gold	rep-qlcg1